

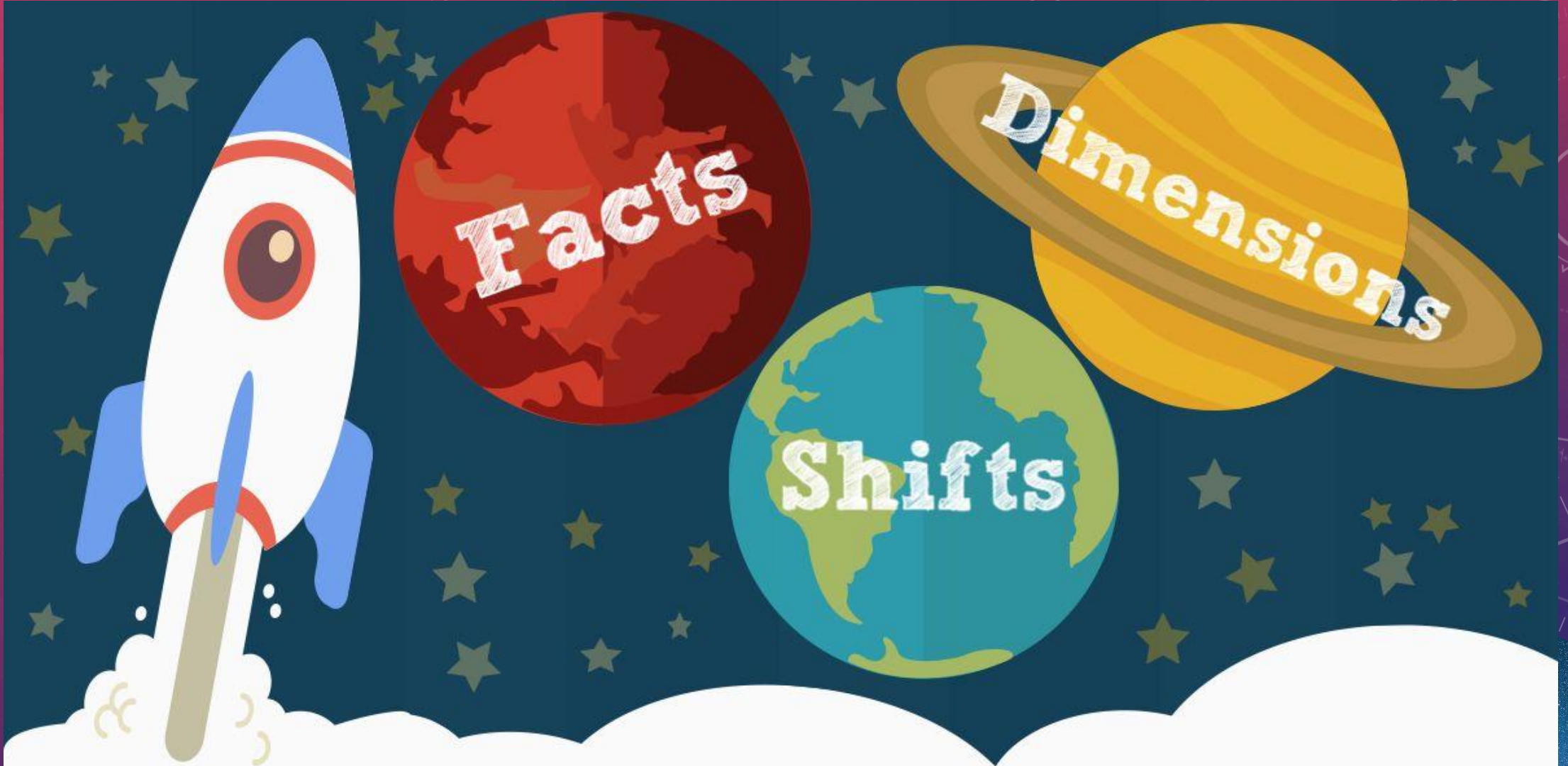
NGSS SCIENCE SHOWCASE

WHAT IS NGSS?



What do you wonder?





The Next Generation Science Standards



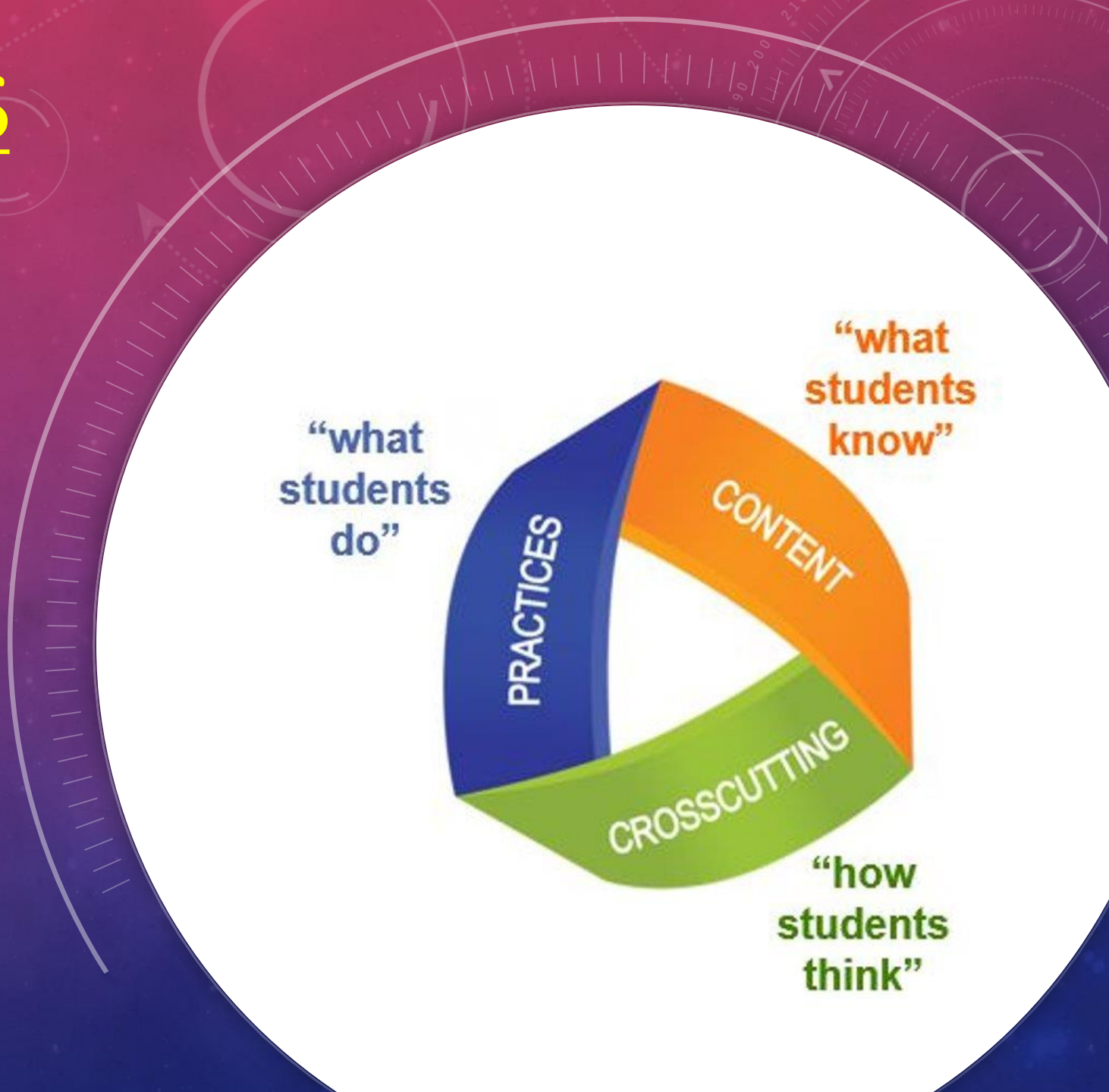
NGSS FACTS

- Standards were adopted in 2013 by the state of California; last standards from 1998
- Approved instructional materials list was released in Nov 2018
- Based on research done by the National Research Council

THREE DIMENSIONS

Disciplinary Core Ideas (DCIs)

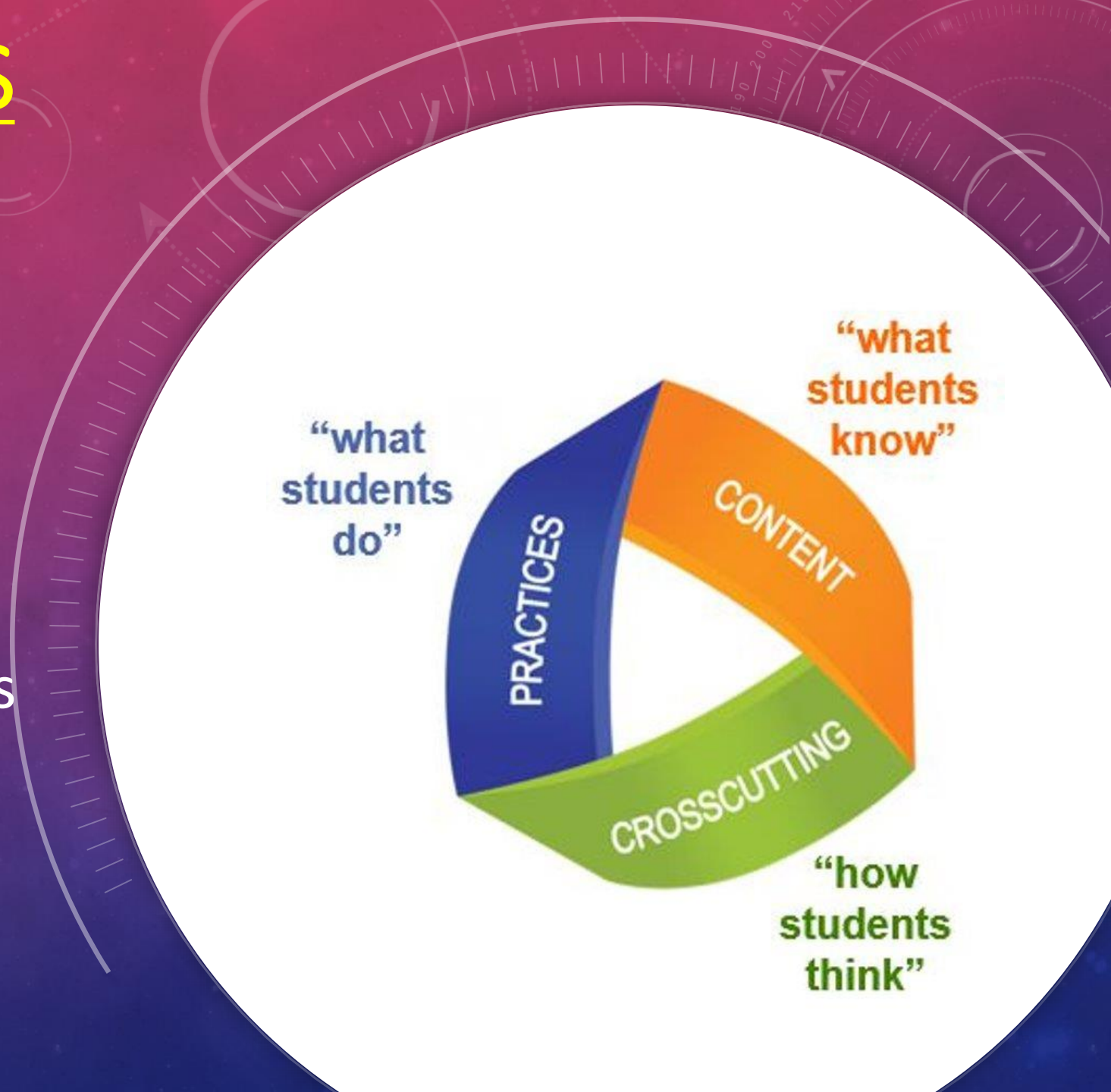
- What students "know"
- Similar to the old 1998 standards
- Factual, knowledge-based
- Earth Science, Life Science, Physical Science, Engineering



THREE DIMENSIONS

Crosscutting Concepts (CCCs)

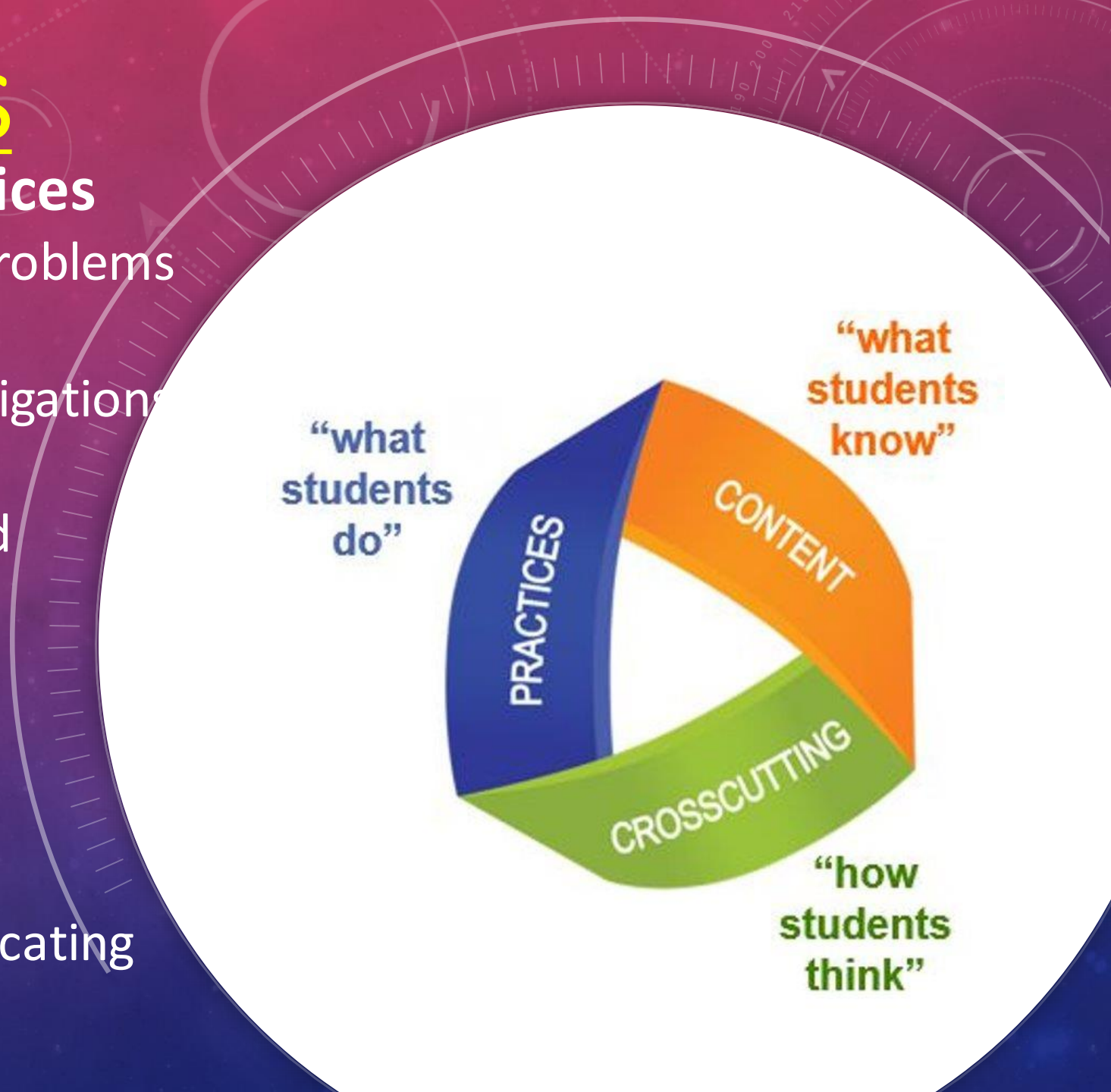
1. Patterns
2. Cause and effect:
Mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter: Flows, cycles, and conservation
6. Structure and function
7. Stability and change



THREE DIMENSIONS

Science and Engineering Practices

1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Mathematical computations and thinking
6. Constructing explanations and designing solutions
7. Engaging in argumentation from evidence
8. Obtaining, evaluating, communicating information



SHIFTS IN THE NGSS

SCIENCE EDUCATION WILL INVOLVE LESS:	SCIENCE EDUCATION WILL INVOLVE MORE:
Rote memorization of facts and terminology	Facts and terminology learned as needed while developing explanations and designing solutions supported by evidence-based arguments and reasoning.
Learning of ideas disconnected from questions about phenomena	Systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned
Teachers providing information to the whole class	Students conducting investigations, solving problems, and engaging in discussions with teachers' guidance
Teachers posing questions with only one right answer	Students discussing open-ended questions that focus on the strength of the evidence used to generate claims

SHIFTS IN THE NGSS

SCIENCE EDUCATION WILL INVOLVE LESS:

Students reading textbooks and answering questions at the end of the chapter

Pre-planned outcome for “cookbook” laboratories or hands-on activities

Worksheets

Oversimplification of activities for students who are perceived to be less able to do science and engineering

SCIENCE EDUCATION WILL INVOLVE MORE:

Students reading multiple sources, including science-related magazine and journal articles and web-based resources; students developing summaries of information.

Multiple investigations driven by students’ questions with a range of possible outcomes that collectively lead to a deep understanding of established core scientific ideas

Student writing of journals, reports, posters, and media presentations that explain and argue

Provision of supports so that all students can engage in sophisticated science and engineering practices

PILOTING AND TIMELINE

- Throughout the year, we will be piloting Lab-Aids and FOSS
- Materials are in the back of the room for you to look over tonight
- Final decision to be made by the end of the school year
- Implementation will happen 2020-2021

The logo for Lab-Aids Proven Science Programs. The word "LAB-aiDS" is written in a bold, blue, sans-serif font, with a small yellow dot above the "i". Below this, the words "Proven Science Programs" are written in a smaller, blue, sans-serif font.

LAB-aiDS
Proven Science Programs



HOW CAN YOU SUPPORT YOUR SCIENTIST?

- Access online textbook through your student's portal (portal.pvpusd.net)
- Ask them questions about what they're investigating in class
- Ask to see his/her science notebook and have him/her explain the different activities

The background is a dark blue gradient with a bokeh effect of out-of-focus light spots in shades of teal and purple. On the left side, there are several overlapping circular patterns, some resembling gauges or scales with numerical markings. The text 'THANK YOU!' is positioned in the lower right quadrant in a white, sans-serif font.

THANK YOU!